

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 7065 (1973): Steering Wheels [TED 2: Automotive Primemovers]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



**AMENDMENT NO. 1 JUNE 1992
TO
IS 7065 : 1973 SPECIFICATION FOR STEERING
WHEELS**

[Page 3, clause 9.1 (b) and (d)] — Substitute ‘— 20°C’ for ‘— 40°C’.

(TED 5)

Reprography Unit, BIS, New Delhi, India



Indian Standard

SPECIFICATION FOR
STEERING WHEELS

1. Scope — Covers the requirements for steering wheels for automobiles and trucks.

1.1 This standard does not cover steering wheels for agricultural tractors and earth moving machinery.

2. Types

2.1 Steering Wheel, Type A — The fixing of the hub to the steering column by a taper bore and key but without provision for fixing the horn button.

2.2 Steering Wheel, Type B — The fixing of the hub to the steering column by a taper bore and key with provision for fixing the horn button.

2.3 Steering Wheel, Type C — The fixing of the hub to the steering column by a flat connection fixed by bolts with provision for fixing the horn button.

2.4 Steering Wheel, Type D — The fixing of the hub to the steering column by a flat connection fixed by screws but without provision for fixing the horn button.

2.5 Steering Wheel, Type E — The fixing of the hub to the steering column by serrations, with or without provision for fixing the horn button.

3. Material — The material of construction for ring, hub, spokes and bush shall be subject to the agreement between the manufacturer and the purchaser.

4. Dimensions

4.1 Nominal overall diameter d_1 of the steering wheel (see figures in Tables 1 and 2) may be selected from the following:

d_1 : 400, 425, 450, 500, 550 mm

4.2 Dimensions of Type A and Type B steering wheels shall be as given in Table 1.

4.3 Dimensions of Type C and Type D steering wheels shall be as given in Table 2.

4.4 Type E steering wheels shall be fixed to the column by serrations of size 17×20 according to IS : 3654-1966 'Dimensions of straight sided serrations'.

5. Designation — The steering wheels shall be designated by the type, nominal diameter, number of this standard, number of spokes, material of construction and special items, if any, like horn ring or button on the spokes.

Example:

A steering wheel of Type A with nominal diameter 400 mm, and of steel hub, steel bush, spokes and ring covered with hard rubber shall be designated as:

Steering wheel A 400 IS : 7065, 3 spokes, steel hub, steel bush, spokes and ring covered with hard rubber.

6. General Requirements

6.1 Steering wheels shall have suitable serrations on the lower surface for better grip.

6.2 Steering wheels shall have a steel insert of suitable diameter to facilitate firm fitting of the spokes.

6.3 The number of spokes for a steering wheel shall be as indicated by the purchaser.

6.4 The method of fixing the spokes to the rim and hub as well as other details of design not indicated in this standard shall be subject to agreement between the manufacturer and the purchaser.

Adopted 19 October 1973

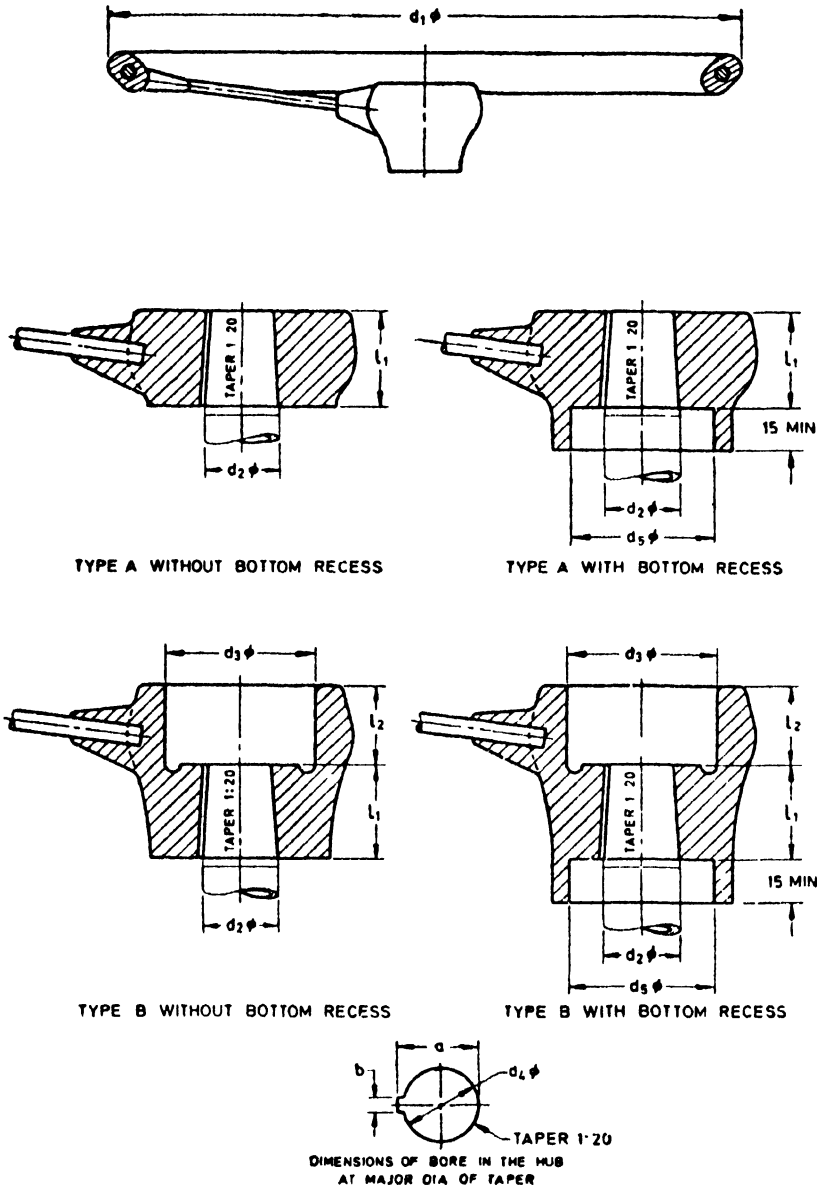
© March 1974, ISI

Gr 2

TABLE 1 DIMENSIONS FOR STEERING WHEELS, TYPE A AND TYPE B

(Clauses 4.1 and 4.2)

All dimensions in millimetres.

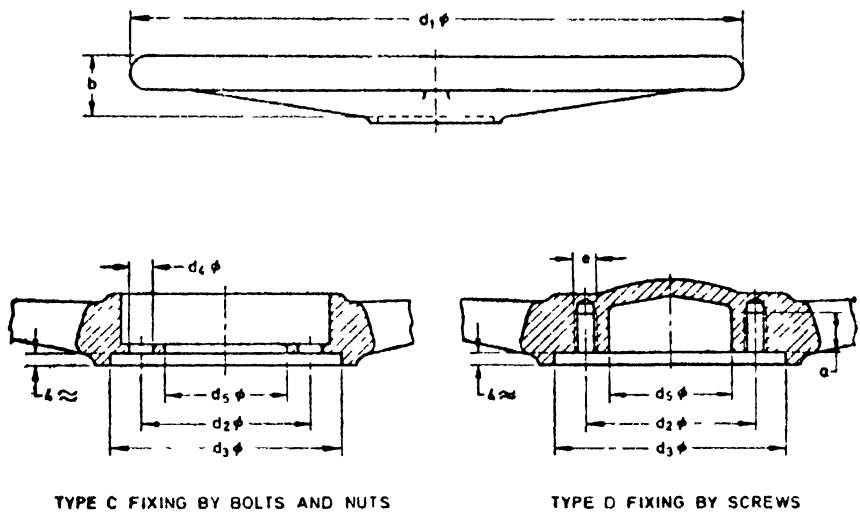


| d_2 $+0.15$ -0.05 | d_3 $+0.15$ -0.05 | d_4 $+0.03$ 0 | d_5 ± 0.5 | a $+0.15$ 0 | b ± 0.015 | l_1 $+1$ | l_2 $+1$ |
|-----------------------------|-----------------------------|---|----------------------------|---|-----------------------|----------------------------|----------------------------|
| 22 22 25 25 28 | 50, 70, 80 | 21.62 21.62 24.62 24.62 27.62 | 40 40 48 48 60 | 23.55 23.55 26.55 26.55 29.65 | 5 5 5 5 6 | 27 27 32 32 40 | 25 25 27 27 41 |

TABLE 2 DIMENSIONS FOR STEERING WHEELS, TYPE C AND TYPE D

(Clauses 4.1 and 4.3)

All dimensions in millimetres.



| d_1 ± 0.3 | d_2 ± 0.5 | d_4 $+ 0.2$ $+ 0.5$ | e | d_5 Approx | a Approx | b $+ 5$ | Number of Fixing Bolts or Screws |
|--------------------|--------------------|-----------------------------|--------------------|-----------------|---------------|--------------|--|
| 58 | 80 | 9 | M 8 \times 1 | 45 | 14 | 42 | 2 |
| 58 | 80 | 9 | M 8 \times 1 | 45 | 14 | 42 | 3 |
| 64 | 90 | 11 | M 10 \times 1.25 | 45 | 16 | 50 | 4 |
| 64 | 90 | 11 | M 10 \times 1.25 | 45 | 18 | 50 | 5 |
| 64 | 90 | 11 | M 10 \times 1.25 | 45 | 18 | 50 | 6 |

7. Workmanship and Finish — The steering wheels shall be uniform in colour, texture, and finish. The wheels shall be finished smoothly all over and shall be free from stains, pitting or blemishes.

8. Marking — The steering wheels shall be marked with the manufacturer's name or trademark. The marking shall be at such a place that it does not have any detrimental effect on the performance of the steering wheel.

8.1 ISI Certification Marking — Details available with the Indian Standards Institution.

9. Tests

9.1 Ageing Test — Two steering wheels are required for this test. The ageing cycle shall consist of the following successive steps:

- a) 24 hours at 80°C dry heat;
- b) 24 hours at -40°C ;
- c) 24 hours at 80°C, 65 to 70 percent humidity; and
- d) 24 hours at -40°C .

After ageing, the steering wheels shall not show any sign of cracking around the hub, spokes and rims.

9.2 Load Test — One of the steering wheels after being aged, as specified in 9.1, shall be placed in a cold chamber for 12 hours at -25°C . The wheel shall then be removed and fitted to a test rig in the same manner as fitted on the vehicle. The steering wheel shall be fitted in such a manner that the plane of the rim makes the same angle with horizontal as in the vehicle. The wheel shall be subjected to the load test specified in 9.2.1 and 9.2.2.

9.2.1 The steering wheel shall be so positioned that one of the spokes points centrally downwards. A load of 45 kgf shall be applied parallel to the axis of the steering wheel and acting at the junction of the lower spoke and the rim, and also a load of 45 kgf at 180° on the opposite side. The wheel shall not show any sign of cracking around the hub, spokes or rim.

9.2.2 The steering wheel after the test given in 9.2.1 shall be positioned so that one of the spokes points centrally downwards. A load of 45 kgf shall be applied to rim parallel to the axis of the steering wheel and acting midway between the lower spoke and the next spoke to the right or left. The wheel shall not show any sign of cracking around the hub, spokes or rim.

9.3 Impact Test — The other aged steering wheel shall be used for the impact test. The complete wheel assembly shall be mounted on a test rig in such a manner that the plane of the rim makes an angle of 45° with the horizontal and one of the spokes is pointing centrally downwards. A bag of sand weighing 45 kg with the projected dimensions of 280 mm \times 380 mm shall be tied as a pendulum from a height of 750 mm vertically above the top most portion of the rim. The sand bag shall be brought up to a position when the string is taut and is horizontal. The bag shall then be swung down freely to strike the top most portion of the rim from the outside. This test shall be repeated three times. After the test, the steering wheel shall not show signs of splintering or shattering on any part, even though the signs of cracking may appear.

9.4 Keyway Safety Test — The steering wheel key and keyway fitment shall be subjected to a minimum torque of twice the torque required to steer the wheel, with the vehicle in standstill condition of good road surface with the front tyres deflated. The steering wheel assembly shall not show any sign of damage. This test shall be conducted with vehicle on its kerb weight (with fuel tank full, radiator filled with water, and spare wheel).

9.5 Test for Concentricity — The steering wheel shall be mounted on the steering column and rotated one full circle. The axial and radial runouts shall not exceed the following limits:

Axial runout : 2 mm (total indicated reading)

Radial runout: 3 mm (total indicated reading)

EXPLANATORY NOTE

In the preparation of this standard, assistance has been derived from the following standards:

NFR 141 — 01 — 1952 — Volants de Direction, A moyeux coniques (Steering wheels with taper connections). Association Francaise de Normalisation.

NFR 141 — 02 — 1961 — Volants de Direction, A moyeux plats (Steering wheels with flat connections). Association Francaise de Normalisation.

DIN 74101 (Sheet 1) — Lenkräder für Lastkraftwagen und Zugmaschinen ohne Aussparung für Hornruckknopf (Steering wheels for trucks and tractors without provision for horn button). Deutscher Normenausschuss.

DIN 74101 (Sheet 2) — Lenkräder für Lastkraftwagen und Zugmaschinen ohne Aussparung für Hornruckknopf (Steering wheels for trucks and tractors with provision for horn button). Deutscher Normenausschuss.